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# BRIEFER ARTICLES.

**Compass Plants.**—I was among the first to be interested in the peculiar twisting of the leaves of the *Silphium laciniatum*, and my paper published in 1865, in the "Proceedings of the Academy of Natural Sciences of Philadelphia," shows how closely the curious plant attracted me. There were some lingering doubts about the "polarity" of the leaves, till one day, when in St. Louis, my good friend Dr. Engelmann, took me to a waste lot in that city, where *Lactuca Scariola* had just secured a foothold. He was a strong believer in polarity, and I gave up. I have, however, continued for a quarter of a century to look for additional facts. It is surprising, if we look closely, how many plants we shall find twisting as Mr. Foerste describes the leaves of some doing (this journal, *ante*, p. 35). Possibly the best of all to study are *Gaura parviflora*, and *Chrysopsis villosa.* With a prepossession in favor of "polarity" I used to think I saw in these good evidence thereof. Continuous and careful watching proved I was wrong. I have long had to abandon this hypothesis in all except the Silphium, as a single plant in my garden is not a fair test. Not seeing them in any quantity I have to be simply an agnostic in regard to its "tendency to evade the direct rays;" and many other suggestive explanations I have also had to abandon.

A few years ago, I found myself at Gettysburg a day ahead of time. Of course it was devoted to botany. *Lactuca Scariola* had got there before me, and was in considerable quantity in some portions of that sacred ground. I walked and sat among them a couple of hours, determined it should give up to me the secret of its upturned leaves. With some strong shoots of species of Solidago before me, I was reminded of a strong but cordial controversy by letter, extending over some time, that I had had in the past with Dr. Asa Gray, I affirming that the leaves of plants do not originate at the nodes from which they appear to spring—a point, by the way, I can more strongly defend to-day. It could be easily seen, by these Solidago stems, that the leaf blades had twisted pentamerously around the stems from some indefinite point below, the edges of each leaf *overlapping*, just as paper overlaps when the confectioner twists a piece of paper into a "cornucopia" bag to hold the sweetmeats; and that-leaf blade, as we finally come to understand the term, is the last crowning act of the spiral growth. With this key it did not take long to open the Lactuca mystery. The whole of my quarter of a century of search seemed rewarded. I have since used the key to the mystery in other plants, and the treasure-box opens as easily. It is the same answer all round. *The twist is the result of a somewhat prolonged effort of spiral growth,* and of no physiological value whatever.

I was for a time puzzled' by a certain uniformity in the direction of the leaves—not by any means always with the edges north and south. Especially was I puzzled in noting that the first opening of a flower of *Helianthus mollis* was to the south-east. But here came in what I think is a point I have established, that growth is rhythmic and not continuous, and that growths that start together are likely to rest together. A quantity of seeds, starting at the same time under the same day's warm sun, would naturally have similar resting phases. Seeds starting at other times, or under some peculiar conditions of vital power, would disarrange total uniformity in results.—THOMAS MEEHAN, *Germantown, Philadelphia.*

**An additional poisonous plant.**—D. T. MacDougal (Bulletin 9, part 1, Jan. 16, 1894; Minnesota Botanical Studies) gives in a convenient reference list the plants of Minnesota known to be poisonous, producing the symptoms called by physicians *dermatitis venenata*, or rhus poisoning. He mentions two species of Ranunculus in his enumeration, *R. septentrionalis* Poir. and *R. sceleratus* Linn. *Ranunculus acris* L. must be added to the list of known or reputed skin irritants, as the following account will show. This species, preserved in alcohol for over a year, was distributed to a university class for study, and in doing this the fingers and hands were frequently immersed in the alcohol of an olive-green color. A day or two afterwards an intense itching sensation was experienced. The softer skin between the fingers became red and covered with minute watery vesicles, or pustules, and after the inflammation had disappeared, the skin of the fingers began to crack, as if they were chapped. These symptoms were exactly similar, in my case, to the effects produced by contact with the poison ivy, Rhus toxicodendron. The watery acrid juice, so universal in the Ranunculads (dissipated in many forms in drying), had been extracted from the plants, and evaporating on the surface of the hands left behind the precipitated active irritating principle.

The wide distribution of the poison sumachs has been accomplished by the carrying of the drupes in the stomachs of birds. An instructive fact, which has come to light recently through the examination of crow stomachs, is the discovery that the fruits of the poison sumach, Rhus venenata, and poison ivy, Rhus toxicodendron, are eaten in large numbers by the crow. W. B. Barrows has in one case recorded that 153 seeds of the poison ivy were found in a single stomach. A single pound of dried excrement taken from a roost in the National Cemetery at Arlington, contained by actual count 1041 seeds of Rhus toxicodendron and 341 seeds of Rhus venenata, in addition to 3271 seeds of other sumachs, 95 seeds of Juniperus Virginiana, 10 seeds of Cornus florida and 6 seeds of Nyssa sylvatica.—JOHN W. HARSHBERGER, *University of Pennsylvania, Philadelphia.*